Catalogue no. 11-626-X — No. 062
ISSN 1927-503X
ISBN 978-0-660-06704-9

Economic Insights

The Impact of Lower Earnings in Alberta on Earnings Growth at the National Level

by Andrew Fields and Guy Gellatly
Labour Statistics Division and Analytical Studies Branch

Release date: November 18, 2016

Statistics Canada Statistique Canada

Canada

How to obtain more information

For information about this product or the wide range of services and data available from Statistics Canada, visit our website, www.statcan.gc.ca.

You can also contact us by

email at STATCAN.infostats-infostats.STATCAN@canada.ca

telephone, from Monday to Friday, 8:30 a.m. to 4:30 p.m., at the following toll-free numbers:

• Statistical Information Service	1-800-263-1136
• National telecommunications device for the hearing impaired	1-800-363-7629
• Fax line	1-514-283-9350

Depository Services Program

• Inquiries line	1-800-635-7943
• Fax line	1-800-565-7757

Standards of service to the public

Statistics Canada is committed to serving its clients in a prompt, reliable and courteous manner. To this end, Statistics Canada has developed standards of service that its employees observe. To obtain a copy of these service standards, please contact Statistics Canada toll-free at 1-800-263-1136. The service standards are also published on www.statcan.gc.ca under "Contact us" > "Standards of service to the public."

Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued co-operation and goodwill.

Standard table symbols

The following symbols are used in Statistics Canada publications:

.	not available for any reference period
..	not available for a specific reference period
...	not applicable
0	true zero or a value rounded to zero
0^s	value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
^{p}	preliminary
^{r}	revised
x	suppressed to meet the confidentiality requirements of the *Statistics Act*
^{E}	use with caution
F	too unreliable to be published
*	significantly different from reference category ($p < 0.05$)

Published by authority of the Minister responsible for Statistics Canada

© Minister of Industry, 2016

All rights reserved. Use of this publication is governed by the Statistics Canada Open Licence Agreement.

An HTML version **is also available.**

Cette publication est aussi disponible en français.

The Impact of Lower Earnings in Alberta on Earnings Growth at the National Level

by Andrew Fields, Labour Statistics Division and Guy Gellatly, Analytical Studies Branch

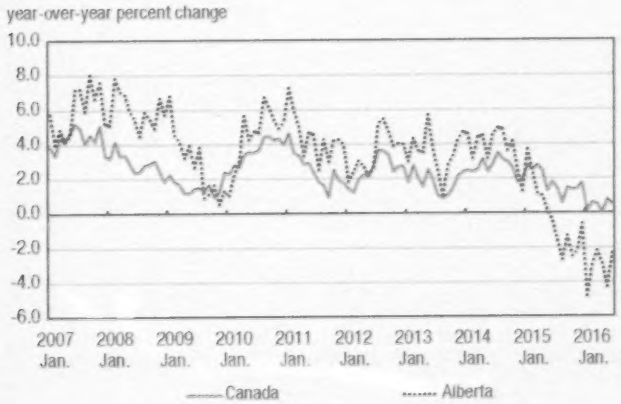
This *Economic Insights* article highlights the slower pace of earnings growth for Canada as a whole during 2015 and the first half of 2016. It focuses on the impact that lower average earnings in Alberta during this period have had on earnings growth at the national level. The contribution of different industries to lower average earnings in Alberta is examined.

Overview

Payroll employment and average earnings in Alberta have trended downward since early 2015 as labour market conditions in the province adjusted to lower oil prices. From January 2015 to June 2016, payroll employment in Alberta declined by 105,500 (-5.1%) with notable job losses in natural resources, construction and manufacturing. The change in average weekly earnings in Alberta, measured year-over-year, has been negative since June 2015 with widespread declines across industrial sectors. A combination of earnings and employment reductions in two high-wage sectors—mining, quarrying, and oil and gas extraction; and professional, scientific and technical services—have contributed most notably to lower average earnings in the province.

Lower average earnings in Alberta have coincided with slower average earnings growth at the national level (Chart 1). For Canada as a whole, the pace of earnings growth moderated throughout 2015. During that year, average annual earnings growth slowed to 1.8%, down from 2.6% in 2014. Earnings growth continued to moderate during the first half of 2016, averaging 0.4% from January to June.

Chart 1
Average weekly earnings



Sources: Statistics Canada, CANSIM table 281-0063 and authors' calculations.

In Alberta, payroll earnings continued to decline year-over-year into 2016, down 3.3% on average during the first six months of the year. The recent declines in Alberta and the slower pace of earnings growth for Canada as a whole have exceeded the lows observed in the 2008-2009 recession.

Lower average earnings in Alberta

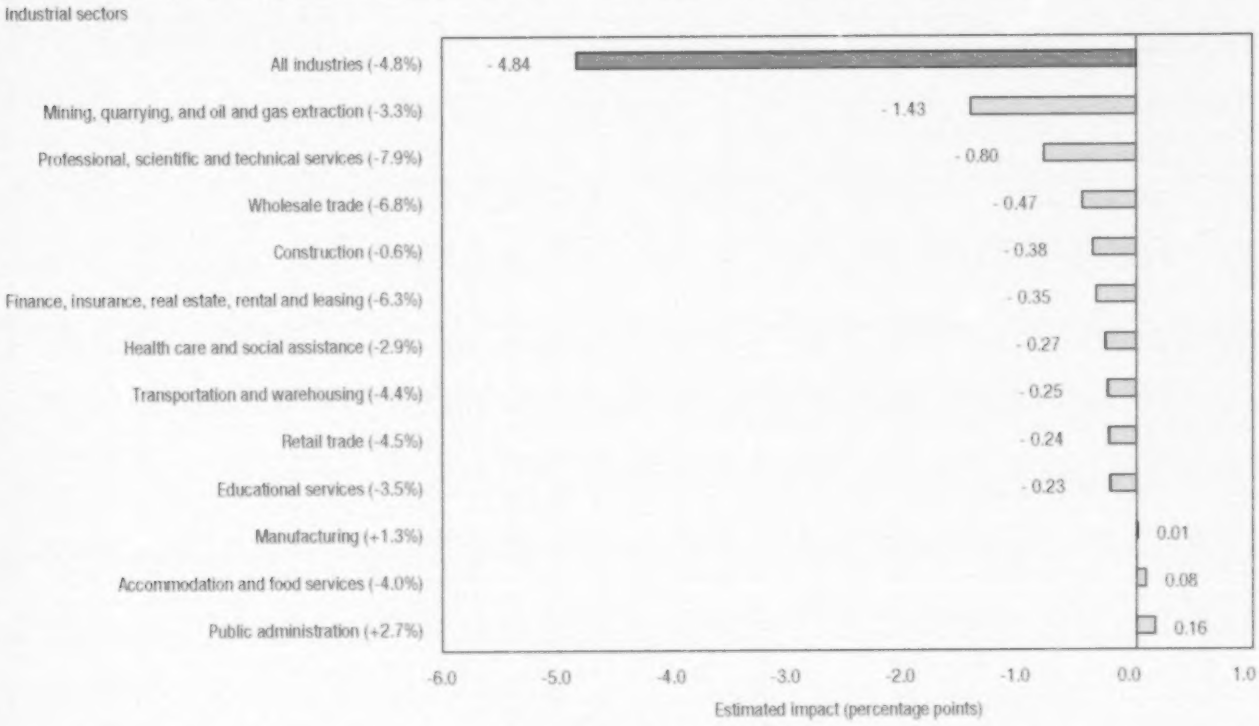
Changes in earnings can reflect a variety of factors, including wage growth, changes in the composition of employment by industry, occupation and level of job experience, as well as changes in average hours worked per week. In January 2016, average payroll earnings in Alberta, measured year-over-year, fell 4.8%, the largest 12-month decline since year-over-year earnings in the province began to decline outright in mid-2015.

Chart 2 highlights how different sectors contributed to the 4.8% decline (see the Note to readers). The relative impact of different sectors depends, in the first instance, on the extent to which wages and employment within specific sectors are changing. However, these estimated impacts also reflect changes in the overall composition of employment, either towards or away from high-earning sectors. Sizable employment losses in high-earning sectors, regardless of whether or not wage rates in these sectors are changing, can push average earnings lower. Employment gains in sectors with lower earnings can have a similar effect.

In January 2016, average weekly earnings in Alberta were $1,115, about 17% higher than the national average. About one quarter of paid employment in Alberta is in resource extraction, manufacturing, construction, and professional, scientific and technical services—sectors where average earnings are higher than the Alberta average. These three sectors experienced the largest decline in employment between January 2015 and January 2016.

Employment in mining, quarrying, and oil and gas extraction fell 25,400 (-19.4%) during the 12 months to January 2016, while average earnings in this sector declined 3.3%. Relative to other sectors, these losses in resource extraction had the largest downward impact on average earnings in Alberta, accounting for about one-third of the overall decline.

Chart 2
Estimated impact of industrial sectors on the change in average weekly earnings, Alberta, January 2015 to January 2016



Notes: Data in parentheses, and for the top bar in the chart, are year-over-year percent changes in average weekly earnings. The remaining sector data are estimated impacts in percentage points. See the *Note to readers*.
Sources: Statistics Canada, CANSIM table 281-0063 and authors' calculations.

Lower employment in professional, scientific and technical services (-10,600 or -8.1% year-over-year), combined with lower earnings (-7.9%) also contributed substantially to lower average earnings in the province. Employment losses in wholesale trade (-5,000 or -4.7%) and construction (-21,200 or -9.8%), both relatively high-wage sectors, also had a negative impact.

Payroll employment in health care and social assistance and educational services increased in the twelve months to January 2016 (+5,300 and +4,100). As earnings in both sectors are below the provincial average, a combination of higher employment and lower wages in these sectors also contributed to lower average earnings in the province. Much of the decline in average earnings in Alberta is attributable to a compositional shift, in which a larger proportion of those employed are working in lower-earning sectors.

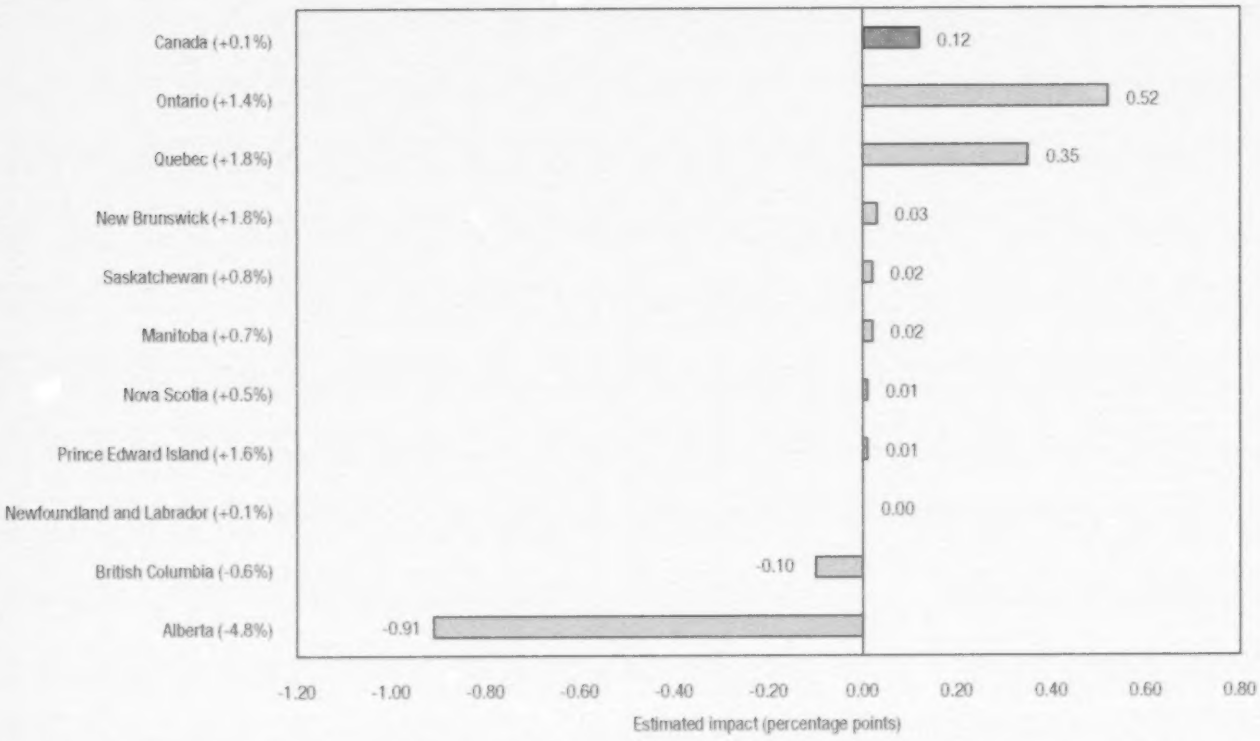
The relative importance of these contributions depends on the 12-month reference period examined. However, the general pattern noted above—with large downward contributions from resource extraction and professional, scientific and technical services—is similar, since year-over-year earnings in Alberta began to decline in mid-2015

The impact of Alberta on average Canadian earnings

Since early 2015, earnings growth for Canada as a whole has trended downward. Average weekly earnings at the national level slowed to 0.1% year-over-year in the 12 months to January 2016, while earnings in Alberta declined 4.8%. Chart 3 examines the relative impact that changes in average earnings in different provinces had on earnings growth for Canada as a whole during that period.

Lower earnings in Alberta (-4.8%), measured year-over-year, reduced overall average earnings in Canada by about 0.9 percentage points in January. During this period, higher average weekly earnings in Ontario (+1.4%) and Quebec (+1.8%) helped

Chart 3
Estimated impact of provinces on the change in average weekly earnings, Canada, January 2015 to January 2016

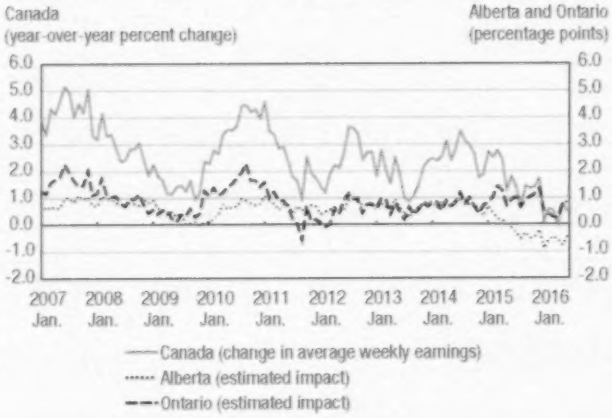


Notes: Data in parentheses, and for the top bar in the chart, are year-over-year percent changes in average weekly earnings. The remaining provincial data are estimated impacts in percentage points. See the *Note to readers*.
Sources: Statistics Canada, CANSIM table 281-0063 and authors' calculations.

offset the impact of lower wages in Alberta. While the direction and magnitude of these contributions vary from month to month, qualitatively large downward contributions from Alberta are a persistent feature of recent earnings data.

Chart 4 presents these contributions over time for Alberta and Ontario. From 2012 to 2014, the overall impact of Alberta on earnings growth at the national level had been similar to that of Ontario, despite having one-third the number of employees. During this period, average earnings for Canada as whole grew at an average pace of 2.3% year-over-year. Higher earnings in Alberta contributed, on average, about 0.7 percentage points to the national growth rate, about one-quarter of the overall change for Canada as a whole. Since early 2015, lower earnings in Alberta have had a measurable impact on slowing the pace of average earnings growth at the national level.

Chart 4
Estimated impact on change in Canada-level year-over-year average weekly earnings, Alberta and Ontario



Sources: Statistics Canada, CANSIM table 281-0063 and authors' calculations.

Summary

The recent trend towards lower earnings in Alberta reflected large compositional changes within the province's labour force. Reduced earnings and employment in resource extraction industries and in professional, scientific and technical services, both high-earning sectors, have contributed substantially to overall earnings declines in Alberta and to slower earnings growth for Canada as a whole.

Note to readers

The Survey of Employment, Payrolls and Hours (SEPH) is produced by combining data from a census of approximately one million payroll deductions provided by the Canada Revenue Agency with the Business Payrolls Survey, which collects data from a sample of 15,000 establishments. The key objective of SEPH is to provide a monthly portrait of the level of earnings and the number of jobs and hours worked by detailed industry at the national, provincial and territorial levels.

All tabulations in this report are based on data collected from SEPH.

The estimated impact of specific industrial sectors and provinces on the year-over-year change in average weekly earnings is derived by calculating what the aggregate earnings growth rate would have been based solely on earnings and employment changes in a particular sector or province, holding average earnings in all other sectors or provinces constant. For example, the estimated impact for mining, quarrying, and oil and gas extraction in Chart 2 provides an approximation of what Alberta's year-over-year earnings growth rate would have been (-1.4%) based solely on changes in the mining, quarrying, and oil and gas extraction sector. Similarly, the estimated impact for Alberta in Chart 3 is an approximation of the year-over-year change in average weekly earnings for Canada as a whole (-0.91) based solely on observed changes for Alberta.

These estimates can be interpreted as percentage-point contributions in that they approximate the impact that earnings changes in specific industrial sectors or provinces have on the national earnings growth rate. It should be noted that the sum of these estimated impacts across all industries or provinces can sometimes differ from the aggregate earnings growth rate.